Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application.

5   **Listing of Claims:**

1.   (Previously Presented) A method of determining a hybrid text summary comprising the steps of:

determining discourse constituents for a text;

10   determining a structural representation of discourse for the text;

determining relevance scores for discourse constituents based on at least one non-structural measure of relevance;

percolating relevance scores based on the structural representation of discourse;

15   determining a hybrid text summary based on discourse constituents with relevance scores compared to a threshold relevance score.

2.   (Previously Presented) The method of claim 1, wherein the structural representation of discourse is determined based on a theory of discourse analysis.

20   3.   (Previously Presented) The method of claim 2, wherein the theory of discourse analysis is at least one of: the Linguistic Discourse Model, the Unified Linguistic Discourse Model, Rhetorical Structure Theory, Discourse Structure Theory and Structured Discourse Representation Theory.

4.   (Previously Presented) The method of claim 1, wherein non-structural

25   measures of relevance are determined based on at least one of: statistics, keywords, knowledge bases.

5.   (Previously Presented) The method of claim 1, wherein percolating the relevance scores comprises the steps of:

for each child discourse constituent node in the structural

30   representation, assigning the relevance score of the child discourse constituent node to the parent discourse constituent node if the child discourse constituent node is more relevant;

for any subordinating nodes, assigning the relevance scores of the subordinated discourse constituent to the subordinating discourse constituent if the subordinated discourse constituent is more relevant; and

for any coordination nodes, assigning the relevance score of the most relevant child to other child discourse constituent nodes.

6.   (Previously Presented) The method of claim 1, wherein percolating the relevance scores comprises the steps of:

for each child discourse constituent node in the structural representation, assigning the relevance score of the child discourse constituent node to the parent discourse constituent node if the child discourse constituent node is more relevant than its parent;

for each coordinated discourse constituent node, assigning the relevance score of the coordinated discourse constituent node to each preceding less relevant sibling node;

for each child discourse constituent node that is not a coordinated discourse constituent node and is not a subordinated discourse constituent node, assigning the relevance score of the parent discourse constituent node to the child discourse constituent node if the parent discourse constituent is more relevant than the child;

for each coordinated discourse constituent node, assigning the relevance score of the parent discourse constituent node to the coordinated discourse constituent node, if the coordinated discourse node and all its siblings are less relevant than the parent node;

for each subordinated discourse constituent node, assigning the relevance score of the subordinated discourse constituent node to the subordinating discourse constituent if the subordinated discourse constituent is more relevant than the subordinating node; and

for each node, repeating these steps, until no node can be found whose relevance score is changed to the relevance score of another node.

7.   (Previously Presented) The method of claim 6, wherein the percolation of relevance scores is applied to progressively larger sets of linked nodes.

8.   (Previously Presented) A method of determining a hybrid text summary comprising the steps of:

determining discourse constituents for a text;

determining a structural representation of discourse for the text;

determining relevance scores for discourse constituents;

percolating relevance scores based on the structural representation of discourse comprising the steps of:

for each discourse constituent leaf node, determining the number of subordinated edges plus one;

determining a score based on the inverse of the number of subordinated edges +1;

for each discourse constituent node, assigning the score of a child discourse constituent node to the parent discourse constituent node, if the score is less relevant;

for any subordination discourse constituent node, assigning the score of the subordinated discourse constituent node to the subordinating discourse constituent node if the subordinated discourse constituent score is lower;

assigning the relevance scores of any coordination discourse constituent node to each child discourse constituent of the coordination if it is lower;

determining an adjusted relevance score based on the score and the subordination level; and

determining a hybrid text summary based on discourse constituents with relevance scores compared to a threshold relevance score.

9.   (Currently Amended) The method of claim 1, further comprising the steps of:

determining every leaf discourse constituent containing an anaphor;

for each anaphor, determine any unique ~~anteeedent**~~ antecedent referents for the anaphor;

substituting the unique antecedent referent into the leaf discourse constituent for the anaphor;

removing the discourse constituent containing the unique antecedent

referent from the set of the discourse constituents with relevance scores more

relevant that the threshold relevance score.

10.   (Currently Amended) The method of claim 1, wherein percolation of

relevance scores comprises the steps of:

        determining important discourse constituent nodes;

        determining unresolved anaphors;

        determining potential resolving discourse constituents **containing

containing potential antecedent referent with potential to resolve anaphors;

        percolating relevance score of important discourse constituents through

a reduced span of potential resolving discourse constituents; and

        determining a reduced span of discourse constituents based on

relevance score.

11.   (Previously Presented) A system for determining hybrid text summaries

comprising:

        an input/output circuit for retrieving a text;

        a processor for determining discourse constituents for the text and

attaching the discourse constituents into a structural representation of

discourse;

        a relevance score determination circuit for determining relevance scores

for the discourse constituents based on at least one non-structural measure of

relevance;

        a percolation circuit for percolating discourse constituent relevance

scores based on the structural representation of discourse; and where the

processor determines a hybrid text summary based on the discourse

constituents with relevance scores exceeding a threshold relevance score.

12.   (Previously Presented) The system of claim 11, wherein the structural

representation of discourse is determined based on a theory of discourse

analysis.

13.   (Previously Presented) The system of claim 12, wherein the theory of

discourse analysis is at least one of: the Linguistic Discourse Model, the

Unified Linguistic Discourse Model, Rhetorical Structure Theory, Discourse Structure Theory and Structured Discourse Representation Theory.

14.   (Previously Presented) The system of claim 11, wherein non-structural measures of relevance are determined based on at least one of: statistics, keywords, knowledge bases.

15.   (Previously Presented) The system of claim 11, wherein, for each child discourse constituent node in the structural representation, the percolation circuit assigns the relevance score of the child discourse constituent node to the parent discourse constituent node if the child discourse constituent node is more relevant;

for any subordinating nodes, the percolation circuit assigns the relevance scores of the subordinated discourse constituent to the subordinating discourse constituent if the subordinated discourse constituent is more relevant; and

for any coordination nodes, the percolation circuit assigns the relevance score of the most relevant child to other child discourse constituent nodes.

16.   (Previously Presented) The system of claim 11, wherein for each child discourse constituent node in the structural representation, the percolation circuit assigns the relevance score of the child discourse constituent node to the parent discourse constituent node if the child discourse constituent node is more relevant than its parent;

for each coordinated discourse constituent node, the percolation circuit assigns the relevance score of the coordinated discourse constituent node to each preceding less relevant sibling node;

for each child discourse constituent node that is not a coordinated discourse constituent node and is not a subordinated discourse constituent node, the percolation circuit assigns the relevance score of the parent discourse constituent node to the child discourse constituent node if the parent discourse constituent is more relevant than the child;

for each coordinated discourse constituent node, the percolation circuit assigns the relevance score of the parent discourse constituent node to

the coordinated discourse constituent node, if the coordinated discourse node

and all its siblings are less relevant than the parent node;

for each subordinated discourse constituent node, the percolation

circuit assigns the relevance score of the subordinated discourse constituent

node to the subordinating discourse constituent if the subordinated discourse

constituent is more relevant than the subordinating node; and

for each node, repeating these steps, until the percolation circuit can

find no node whose relevance score is changed to the relevance score of

another node.

17.   (Previously Presented) The system of claim 16, wherein the percolation

is applied to progressively larger sets of linked nodes.

18.   (Currently Amended) A system for determining hybrid text summaries

comprising:

an input/output circuit for retrieving a text;

a processor for determining discourse constituents for the text and

attaching the discourse constituents into a structural representation of

discourse;

a relevance score determination circuit for determining relevance scores

for the discourse constituents based on at least one non-structural measure of

relevance;

a percolation circuit for percolating discourse constituent relevance

scores based on the structural representation of discourse; wherein for each

discourse constituent leaf node, the percolation circuit determines the number

of subordinated edges plus one and an-a score based on the inverse of the

number of subordinated edges +1;

for each discourse constituent node, the percolation circuit assigns the

score of a child discourse constituent node to the parent discourse constituent,

if the score is less relevant;

for any subordination discourse constituent node, the percolation circuit

assigns the score of the subordinated discourse constituent node to the

subordinating discourse constituent node if the subordinated discourse

constituent score is lower;

the percolation circuit assigns the scores of any coordination discourse constituent node to each child discourse constituent of the coordination if it is lower; and the processor determines an adjusted relevance score based on the score and the subordination level; and a hybrid text summary based on the discourse constituents with relevance scores exceeding a threshold relevance score.

19.   (Previously Presented) The system of claim 11, wherein the processor determines every leaf discourse constituent containing an anaphor;

for each anaphor, the processor determines any unique preceding referents for the anaphor;

the processor substitutes the unique antecedent referent into the preceding discourse constituent for the anaphor referent; and

the processor removes the preceding discourse containing the unique referent from the discourse constituents with relevance scores exceeding the threshold relevance score.

20.   (Previously Presented) The system of claim 11, the percolation circuit determines every leaf discourse constituent containing an anaphor;

for each anaphor, the percolation circuit determines any unique preceding referents for the anaphor;

the percolation circuit substitutes the unique antecedent referent into the leaf discourse constituent for the anaphor;

the percolation circuit removes the discourse constituent containing the unique antecedent referent from the set of the discourse constituents with more relevant relevance scores.

21.   (Previously Presented) The system of claim 11, wherein the processor determines important discourse constituent nodes based on a non-structural measure of relevance;

determines unresolved referents in the important discourse constituents;

determines potential resolving discourse constituents with potential to resolve referents;

percolates relevance score of important discourse constituents through a reduced span of potential resolving discourse constituents; and

determines a reduced span of discourse constituents based on relevance

score.

22.   (Previously Presented) A carrier wave encoded to transmit a control

program, useable to program a computer to determine hybrid text summary, to

5   a device for executing the program, the control program comprising:

instructions for determining discourse constituents for a text;

instructions for determining a structural representation of discourse for

the text;

instructions for determining relevance scores for discourse constituents

10   based on at least one non-structural measure of relevance;

instructions for percolating relevance scores based on the structural

representation of discourse;

instructions for determining a hybrid text summary based on discourse

constituents with relevance scores compared to a threshold relevance score.

15   23.   (Previously Presented) Computer readable storage medium comprising:

computer readable program code embodied on the computer readable storage

medium, the computer readable program code usable to program a computer

to determine hybrid text summary comprising the steps of:

determining discourse constituents for a text;

20   determining a structural representation of discourse for the text;

determining relevance scores for discourse constituents based on at

least one non-structural measure of relevance;

percolating relevance scores based on the structural representation of

discourse;

25   determining a hybrid text summary based on discourse constituents with

relevance scores compared to a threshold relevance score.

24.   (Previously Presented) A method for discourse parsing comprising the

steps of:

determining a structural representation of discourse based on a theory

30   of discourse analysis;

determining at least one sentence of a text;

determining sentential-level parse features for the at least one sentence;

determining a mapping between the sentential-level parse features and discourse-level parse features;

determining a discourse-level parse tree of the at least one sentence based on the mapping;

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determining a main discourse constituent for the at least one sentence;

determining an attachment of the discourse level parse tree to the structural representation of discourse by the determined main discourse constituent based on attachment rules for the theory of discourse.

25.   (Previously Presented) A method of segmenting text into discourse

10   constituents comprising the steps of:

determining a theory of discourse analysis;

determining candidate segments;

determining attributes of candidate segments associated with continuing the discourse;

15   determining if the candidate segment is a discourse constituent based on the theory of discourse analysis and the determined attributes.

26.   (Previously Presented) The method of claim 25, wherein the attributes are determined based on at least one of: a part-of-speech tag, a probabilistic parser, a statistical parser, a finite state parser, a symbolic parser, a lexicon,

20   and a WordNet relation.

27.   (Previously Presented) A method of determining a structural representation of discourse comprising the steps of:

determine discourse constituents for a text; and

conjoining the discourse constituents into a structural representation of

25   discourse based on theory of discourse analysis classifications of the discourse constituents and at least one of a syntactic, a semantic and a lexical-semantic constraint.

28.   (Previously Presented) The method of determining a hybrid text summary for a text comprising the method of segmenting text of claim 24, the

30   method of determining a structural representation of discourse of claim 27, the discourse parsing of claim 23 and the method of determining a hybrid text summary of claim 1.

29.   (Previously Presented) A system for discourse parsing comprising:

an input/output circuit;

a processor which determines a structural representation of discourse

based on a theory of discourse analysis;

determines at least one sentence of a text;

determines sentential-level parse features for the at least one sentence;

determines a mapping between the sentential-level parse features and

discourse-level parse features;

determines a discourse-level parse tree of the at least one sentence

based on the mapping;

determines a main discourse constituent for the at least one sentence;

determining an attachment of the discourse level parse tree to the

structural representation of discourse by the determined main discourse

constituent based on attachment rules for the theory of discourse.

30.   (Previously Presented) A system for segmenting text into discourse

constituents comprising:

an input/output circuit;

a processor which determines a theory of discourse analysis;

determines candidate segments;

determines attributes of candidate segments associated with continuing

the discourse;

determines if the candidate segment is a discourse constituent based on

the theory of discourse analysis and the determined attributes.

31.   (Previously Presented) The system of claim 30, wherein the attributes

are determined based on at least one of: a part-of-speech tag, a probabilistic

parser, a statistical parser, a finite state parser, a symbolic parser, a lexicon,

and a WordNet relation.

32.   (Previously Presented) A system of determining a structural

representation of discourse comprising:

an input/output circuit;

a processor which determines discourse constituents for a text; and

conjoins the discourse constituents into a structural representation of discourse

based on theory of discourse analysis classifications of the discourse

constituents, and at least one of a syntactic, a semantic and a lexical-semantic

constraint.

33.   (Previously Presented) The hybrid text summarization system

comprising the system for segmenting text of claim 30, the method of

determining a structural representation of discourse of claim 32, the discourse

parsing of claim 29 and the method of determining a hybrid text summary of

claim 11.

34.   (Previously Presented) The method of claim 8, further comprising the

steps of:

        determining a combined relevance score based on the relevance scores

and non-structural relevance scores and percolating the combined relevance

score.

35.   (Previously Presented) The system of claim 18, the relevance circuit

determines combined relevance score based on the relevance scores and non-

structural relevance scores and percolating the combined relevance score.

36.   (Previously Presented) A hybrid text summarization system

comprising:

        means for determining discourse constituents for a text;

        means for determining a structural representation of discourse for the

text;

        means for determining relevance scores for discourse constituents based

on at least one non-structural measure of relevance;

        means for percolating relevance scores based on the structural

representation of discourse; and

        means for determining a hybrid text summary based on discourse

constituents with relevance scores compared to a threshold relevance score.

37.   (Currently Amended) A hybrid text summarization system comprising:

        means for determining discourse constituents for a text;

        means for determining a structural representation of discourse for the

text;

        means for determining relevance scores for discourse constituents;

means for percolating relevance scores based on the structural representation of discourse comprising the steps of:

means for for-each discourse constituent leaf node, determining the number of subordinated edges plus one;

5   means for determining a score based on the inverse of the number of subordinated edges +1;

means for for-each discourse constituent node, assigning the score of a child discourse constituent node to the parent discourse constituent node, if the score is less relevant;

10   means for for-any subordination discourse constituent node, assigning the score of the subordinated discourse constituent node to the subordinating discourse constituent node if the subordinated discourse constituent score is lower;

means for assigning the relevance scores of any coordination

15   discourse constituent node to each child discourse constituent of the coordination if it is lower;

means for determining an adjusted relevance score based on the score and the subordination level; and

means for determining a hybrid text summary based on discourse

20   constituents with relevance scores compared to a threshold relevance score.

38.   (Previously Presented) A method for discourse parsing system comprising:

means for determining a structural representation of discourse based on a theory of discourse analysis;

25   means for determining at least one sentence of a text;

means for determining sentential-level parse features for the at least one sentence;

means for determining a mapping between the sentential-level parse features and discourse-level parse features;

30   means for determining a discourse-level parse tree of the at least one sentence based on the mapping;

means for determining a main discourse constituent for the at least one sentence; and

means for determining an attachment of the discourse level parse tree to the structural representation of discourse by the determined main discourse constituent based on attachment rules for the theory of discourse.

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39.   (Previously Presented) A text segmenting system comprising:

means for determining a theory of discourse analysis;

means for determining candidate segments;

means for determining attributes of candidate segments associated with continuing the discourse; and

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means for determining if the candidate segment is a discourse constituent based on the theory of discourse analysis and the determined attributes.

Amendments to the Drawings:

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The attached 4 sheets of drawings, 1, 3, 5 and 7, include changes to Figs. 1, 3, 5 & 7. Elements 1000-1002 in Figs. 1, 3 & 5 are corrected to 10000-10002. In line 16 of figure 7, "LS: AP/Lexeme) hasa" is changed to "LS: (AP/Lexeme) hasa" to add an open parenthesis for consistency. In line 46 of Fig. 7, "Subrodinate"is changed to "Subordinate" to correct a misspelling. In line 48 of Fig. 7, ">Subordinate(AP,M-BDU);" is changed to ">→Subordinate(AP,M-BDU);" to correct a typographical error and for consistency with the other entries.

Attachment: An appendix containing Replacement Sheets 1, 3, 5 and 7 and Annotated Sheets 1, 3, 5 and 7 showing changes made.

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